



RSA/Rule: RSA 482-A/ Env-Wt 100-900

WETLANDS PERMIT APPLICATION

Land Resources Management

Wetlands Bureau

Check the status of your application: www.des.nh.gov/onestop

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME:

Indicate your Review Time below. Refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact)☐ Expedited Review (Minimum Impact only)**2. PROJECT LOCATION:**

Separate applications must be filed with each municipality that jurisdictional impacts will occur in.

ADDRESS: **Route 12 A**TOWN/CITY: **Surry**TAX MAP: **N/A**BLOCK: **N/A**LOT: **N/A**UNIT: **N/A**USGS TOPO MAP WATERBODY NAME: **Unnamed Stream**☐ NASTREAM WATERSHED SIZE: **1.9 Sq Miles**☐ NALOCATION COORDINATES (If known): **42.994650, 72.321104**☒ Latitude/Longitude ☐ UTM ☐ State Plane**3. PROJECT DESCRIPTION:**

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

Repair and existing 9'x9' concrete box culvert along Route 12A in Surry, NH. The repair consists of constructing an 8" thick knee/toe wall (shown as 1' if measured by scale on plans for the ease of calculating impacts) along the wingwalls and abutments through the structure. The repair will also include the construction of a downstream weir. Temporary impacts will be needed to facilitate access and the temporary stream diversion via the use of sandbags.

4. SHORELINE FRONTAGE☒ NA This lot has no shoreline frontage.

SHORELINE FRONTAGE:

Shoreline frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line.

5. RELATED PERMITS, ENFORCEMENT, EMERGENCY AUTHORIZATION, SHORELAND, ALTERATION OF TERRAIN, ETC...

N/A

6. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 16 - 3307.b. ☐ Designated River the project is in ¼ miles of: _____; anddate a copy of the application was sent to the Local River Management Advisory Committee: Month: ____ Day: ____ Year: ____☒ NAshoreland@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

7. APPLICANT INFORMATION (Desired permit holder)LAST NAME, FIRST NAME, M.I.: **Belanger, Kevin J**TRUST / COMPANY NAME: **NHDOT District 4**MAILING ADDRESS: **19 Base Hill Rd.**TOWN/CITY: **Swansey**STATE: **NH**ZIP CODE: **03446**EMAIL or FAX: **Kevin.Belanger@dot.nh.gov**PHONE: **603-352-2302**ELECTRONIC COMMUNICATION: By initialing here: **KJB**, I hereby authorize NHDES to communicate all matters relative to this application electronically**8. PROPERTY OWNER INFORMATION (If different than applicant)**

LAST NAME, FIRST NAME, M.I.:

TRUST / COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically

9. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.:

COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically

10. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for NHPA 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.



Property Owner Signature

John Kallfelz

Print name legibly

3/14/2017

Date

shoreland@des.nh.gov or (603) 271-2147

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MUNICIPAL SIGNATURES

11. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.


	Print name legibly	Date
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DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

12. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Print name legibly	Town/City	Date
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DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials,

13. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Perennial Stream / River	108 / 108 <input type="checkbox"/> ATF	706 / 135 <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	9 / 9 <input type="checkbox"/> ATF	540 / 60 <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
TOTAL	117 / 117	1246 / 195

14. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of \$ 200

☐ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 1363 sq. ft. X \$0.20 = \$ 272.60

Temporary (seasonal) docking structure: sq. ft. X \$1.00 = \$

Permanent docking structure: sq. ft. X \$2.00 = \$

Projects proposing shoreline structures (including docks) add \$200 = \$

Total = \$

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 272.60

shoreland@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

Surry Box Culvert 41213
Route 12A
Surry, NH
Repair 9'x9' box culvert

1:24,000

Box Culvert Location
42.994650, 72.321104

WETLANDS PERMIT APPLICATION – ATTACHMENT A MINOR AND MAJOR - 20 QUESTIONS

Water Division/ Wetlands Bureau/ Land Resources Management
Check the Status of your application: www.des.nh.gov/onestop



RSA/ Rule: RSA 482-A, Env-Wt 100-900

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The existing box has deteriorated concrete and needs repair. There is significant scour along the toe of the wingwalls and abutments. There is failed concrete and exposed rebar that must be repaired. There is also a small perch at the outlet of the culvert. A wier will be constructed to backwater his area. The jurisdictional impacts are necessary to provide the repairs that will protect the existing structure from further deterioration as well as estalish better stream connectivity. The permant impacts are for installing the toe/knee wall and weir. The temporary impacts are for temporary scaffolding and access to the structure and location of the weir.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

Repairing the existing 9'x9' concrete box culvert has the least permanent impacts. Other alternatives such as replacement in kind, slight upgrade, and full blown compliant stream crossing designs were considered. This is the prefered alternative because it is the most cost effective and has minimal impact to the environment.

In the January 18th, 2017 Natural Resource Agency Meeting concerns were raised by NHDES about the purched outlet. It was asked that a weir be constructed to backwater at the outlet to improve stream connectivity. Addressing the perch was originally outside of the project scope, however NHDOT was able to make this improvement to the preferred alternative.

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3. The type and classification of the wetlands involved.

R2UB1: Riverine, Lower Perennial, Unconsolidated Bottom, cobble-gravel

**R2UB2: Riverine, Lower Perennial, Unconsolidated Bottom, sand
Bank**

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

No name stream flows into the Ashuelot River which is located over a 1/4 mile away.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

The no named stream has not been identified as being a rare surface water by the state.

6. The surface area of the wetlands that will be impacted.

814 sq. ft. Riverine (108 sq. ft. permanent/ 706 sq. ft. temporary)

549 sq. ft. Bank (9 sq. ft. permanent/ 540 sq. ft. temporary)

7. The impact on plants, fish and wildlife including, but not limited to:
- a. Rare, special concern species;
 - b. State and federally listed threatened and endangered species;
 - c. Species at the extremities of their ranges;
 - d. Migratory fish and wildlife;
 - e. Exemplary natural communities identified by the DRED-NHB; and
 - f. Vernal pools.

The results of the NH Natural Heritage Bureau database review are enclosed. This review determined that; No known rare species or exemplary natural communities are in the vicinity of the project area.

- a. No rare or special concern species were identified within the proposed project area.**
- b. There were no State or Federally listed threatened or endangered species identified within the project limits by NHB. However, the USFWS IPaC results identified the Northern Long-Eared Bat (NLEB) on the Project's Official Species List as having potential to be present in the project area. This project does not require tree clearing. The Department has determined that the project will not result in any prohibited actions as described in the 4(d) rule. The Department has provided ACOE a completed 4(d) consultation for for their submittal to USF&WS.**
- c. There are no species known to be at the extremities of their ranges located in the project area.**
- d. Migratory fish will not be affected due to this project. During construction, streamflow will be maintained through a portion of the natural channel, allowing fish to pass through the work zone. Upon project completion, migratory fish will be able to travel through the entire channel. Migratory wildlife will not be affected as a result of this project.**
- e. The Department has coordinated with DRED and the results of the NHB review revealed no records in this area.**
- f. There were no vernal pools identified and/or delineated in the project area.**

8. The impact of the proposed project on public commerce, navigation and recreation.

There will be no impact to public commerce, navigation or recreation. The road will be kept open with alternating one way traffic during construction.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The project will have no aesthetic impacts. The proposed improvements will be more pleasing to the eye than the poor eroded condition. It's also likely that most of the driving public will not be able to see the improvements from their line of sight on the roadway.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The project will not interfere with or obstruct public rights of passage or access. The project will improve the safety of the public highway.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

There will be no impact to abutters the project is completely contained within State ROW.

12. The benefit of a project to the health, safety, and well being of the general public.

This project will improve highway safety because it is establishing a safer, longer lasting structure.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The water quality should be the same before and after the project. The project is not altering the way surface water acts currently.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

Flooding: The project as proposed will not increase the potential of flooding. The current structure passes both the 100-year and 500-year flooding frequencies and through hydraulic analysis it has been determined that the proposed structure will pass both flooding frequencies as well. (See hydraulic analysis summary with the Stream Crossing 904.09 form.)

Erosion: Installing the toe/knee walls is intended to prevent erosion and scour along the structure. No additional erosion is expected to be caused by this project.

Sedimentation: Nothing that will be a barrier to sediment transport will be installed in this project.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Surface waters will not be reflected or redirected as a result of this project. No name brook doesn't have enough surface water for wave energy to be an issue.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

N/A

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The project proposes minimal impacts and will not change the value and or use of the wetland.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

This project is not located in or near any of the following Natural Landmarks listed on the National Register: Lake Umbagog East Inlet and Floating Island, Pondicherry Wildlife Refuge, Franconia Notch, Nancy Brook Scenic Area, Heath Pond Bog, Madison Boulder, White Lake Pitch Pine Forest, Mount Monadnock, Rhododendron Natural Area, and Spruce Hole Bog.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

There are no areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, or national lakeshores that will be impacted as a result of this project.

20. The degree to which a project redirects water from one watershed to another.

This project will not change any flow patterns.

NOTES ON CONFERENCE:

Finalization of December 21st Meeting Minutes

Gino Infascelli asked that the minutes not be finalized as he wanted to provide a few comments.

Surry, 41213 Non-Federal

Kevin Belanger reviewed the project and Impacts.

Project Description.

Project is to rehabilitate a 9' x 9' box culvert built in 1939, on Route 12A in Surry.
The existing concrete on the base of the box walls and wing walls is in poor condition.
We propose to build an 8" knee wall (toe wall), and to repair the existing brush curb.

Wetland Impacts.

1186 sq ft of temporary impacts.
101 sq ft of permanent impacts.

Other Impacts.

Daytime alternating one way traffic will be required at times.
Northern Long eared bat was identified as possibly in this area, no tree clearing or cutting is needed.
NHB had no findings.

Other alternatives.

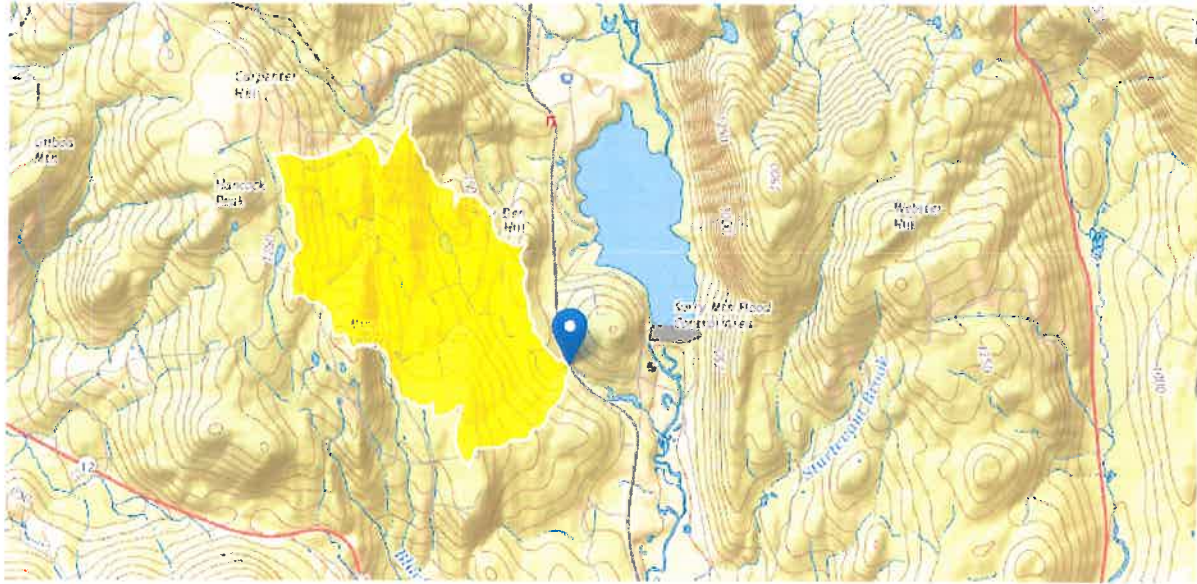
Due to cost other alternatives were not considered. Cost estimate for a complete replacement of the structure upgrading to one compliant with Tier 3 crossing rules is approximately \$600,000.

Mike Hicks indicated he would check to see if there were any Army Corp projects planned in the area. Gino Infascelli indicated that it appeared the outlet side of the structure was slightly perched. Kevin explained that the inlet was a cobble gravel bottom and the outlet appeared to be a solid natural stone bottom that could have at one time been cobble but washed away. Gino noted that the stream was listed as a cold water fisheries area level 2, and asked if the Department could provide a backwater area to reduce or eliminate the perch. Matt Urban asked Kevin about the project schedule; Kevin replied he was hoping mid-summer. Matt indicated that when the department proposes weirs we often collect profile elevations of the stream to help in showing where the weir would be possibly placed as well as the elevations for the construction of the weir/ notch to the elevation of the perch. Kevin indicated he could gather that information starting 30 to 40' below the outlet. Gino also suggested going 5 to 10 feet upstream of the box. Matt clarified that though the impact of any weir needs to be shown DES considers them self-mitigating, and Gino agreed. Matt and Gino both agreed that the toe walls are protection for the existing structure and mitigation is not required.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

StreamStats Report

Region ID: NH
Workspace ID: NH20161102051246411000
Clicked Point (Latit... 42.99470,-72.32132
Time: 2016-11-02 07:13:21 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.9	square miles = 1216 acres

For Compliant Structure
 22 ft span
 17 ft bfw

**NH Department of Transportation
District 4
Project, #41213
Env-Wt 904.09 Alternative Design
TECHNICAL REPORT**

Env-Wt 904.09(a) - If the applicant believes that installing the structure specified in the applicable rule is not practicable; the applicant may propose an alternative design in accordance with this section.

1. Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as *available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.*)

The brook has a drainage area of 1.9 square miles which qualifies this stream as a Tier 3 Crossing. The required span based on the NH Stream Crossing Guidelines for a new Crossing is 22 feet. A structure of this size is estimated to cost approximately \$600,000. Spending this much on a structure that could be preserved for significantly less would not be a practical use of resources. There would also be constructability issues installing a larger/compliant size structure because the Department would likely need to raise the elevation of the road due to the extreme lack of existing clearance. This would result in complications with nearby residential driveways.

2. Please explain how the proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable*, as specified below. Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed:

(a) In accordance with the NH Stream Crossing Guidelines.

The NH Stream Crossing Guidelines do not mention maintenance to a structure in a Tier 3 watershed. The proposed repairs will not alter the existing slope and alignment of the structure. The bottom of the existing structure is currently concrete and that will not change as a result of this project. Fish and small critter passage will be improved by the addition of the knee/toe walls and the downstream fish weir; the knee/toe walls will provide a shelf through the structure that critters could use to cross and the fish weir will enhance fish passage by reducing the perch at the outlet. The proposed project will not significantly affect the flow depths found in the existing structure, the proposed fish weir will be set with its top at elevation 95.40 which will result in a backwater effect. The proposed structure will not significantly change the hydraulic capacity of the structure.

(b) With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing.

Water depths and velocities within the crossing at a variety of flows will be comparable to the existing depths and velocities. The toe/knee wall within the structure will change water depth and velocities a negligible amount.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage.
Impacts to the banks are only temporary to facilitate access to the structure and to construct the fish weir. The banks will remain vegetated and any disturbed areas will be restored with seed and hay upon completion of work.

(d) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain.
The proposed repairs will make no changes to existing alignment and gradient. The top of the proposed weir will be set at elevation 95.40 resulting in a backwater effect. This is not going to alter the function of the natural floodplain. No impacts are proposed otherwise to the floodplain of the stream.

(e) To accommodate the 100-year frequency flood, to ensure that (1) there is no increase in flood stages on abutting properties; and (2) flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability.
The existing structure has no history of flooding and the proposed repairs will not alter the structures capacity or ability to past the 100-year nor 500-year storms, therefore the proposed work will not change the potential of flooding on abutting properties. The current 9'x9' structure can pass the 100-year and 500-year flood; the slight alterations to the hydraulic opening due to the knee/toe wall will not prevent the structure from accommodating both flooding frequencies. (see hydraulic analysis summary.)

(f) To simulate a natural stream channel.
The current structure has a concrete floor/channel, no changes to the structure's channel are proposed.

(g) So as not to alter sediment transport competence.
The proposed repairs will not alter the ability of the structure to transport any sediment.

Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:

Env-Wt 904.01

(a) Not be a barrier to sediment transport;
The proposed repairs will not affect the current ability of the structure to transport sediment.

(b) Prevent the restriction of high flows and maintain existing low flows;
The cross sectional area of the structure will be reduced by 8" on each side. However, this will not change flow characteristics. The current structure passes both the 100-year and 500-year flooding frequencies and through hydraulic analysis it has been determined that the proposed structure will still pass both flooding frequencies. (See hydraulic analysis summary). Low flow conditions will be improved by setting the top of the proposed fish weir at elevation 95.40 whereby causing a backwater effect.

(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;
The repairs will not affect the movement of aquatic life indigenous to the stream beyond the actual duration of construction. During construction passage will still be possible because the channel will be diverted to one side of the box via the use of sand bags that will alternate the diverted flow

one at a time while work is done on the walls. The proposed weir downstream of the outlet will improve the movement of aquatic life indigenous to the water body beyond the duration of construction.

(d) Not cause an increase in the frequency of flooding or overtopping of banks;

The repairs are not expected to create any flooding issues. The current structure passes both the 100-year and 500-year flood and through hydraulic analysis it has been determined that the proposed structure will still pass both. (See hydraulic analysis summary).

(e) Preserve watercourse connectivity where it currently exists;

Connectivity will be improved due to the proposed weir. The alignment and gradient of the channel is not proposed to change.

(f) Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;

Watercourse connectivity will be improved due to the proposed weir. Aquatic life upstream and downstream will be improved by the installed weir.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and

The proposed toe wall repairs will not alter the flow path of this stream. As such, water will not be redirected into the banks or channel of the stream and will not result in erosion or aggradation. The installation of the downstream fish weir will be constructed in a manner utilizing granite block, existing ledge and some strategically placed stone so not to cause channel instability or scour upstream or downstream of the structure.

(h) Not cause water quality degradation.

The project will not impact the quantity or quality of surface and or groundwater at this site. Best Management Practices will be used to prevent any adverse effect on water quality during construction.

Hydraulic Analysis

Current Conditions

The Q100 is 354 cfs

The Q500 is around 500 cfs

Height of flow at the outlet of the existing structure would be

At Q100 = 6.27' deep

At Q 500 = 7.92' deep

Height of flow at the outlet after the proposed modifications

At Q100 = 6.94' deep so 0.67 feet deeper than current.

At Q500 = 8.85' deep so 0.93' deeper than current.

The box is 9' tall; even with the proposed modifications the box will allow for the Q500 flow with 0.15' of freeboard, and the Q100 with 2.06 feet of freeboard.

The cross section area would be reduced by ~ 3% (81 to 78.3 sq. ft.) a very minor change in area.

1. The proposed repairs will have a negligible difference to the capacity of the existing box culvert that has no history of flooding.

The proposed work reduces the capacity of the structure by approximately 10%. ($7.92'/8.85' =$ about 90%, so it's reduced by 10%)

2. The proposed modifications will still allow the structure to pass the Q100 and Q500 event and have freeboard.

Note: Some engineering estimates were used in the hydraulic analysis modeling for the current conditions.

MITIGATION REPORT

At the January 18th, 2017 Natural Resource Agency Meeting it was determined that no mitigation would be need for the toe/knee wall as it is needed for the protection of the existing structure. NHDES also concurred that no mitigation would be required for the installation of the weir.



New Hampshire Natural Heritage Bureau

To: Kevin Belanger
19 Base Hill Road
Swanzey, NH 03446

Date: 10/31/2016

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 10/31/2016
NHB File ID: NHB16-3307

Applicant: Kevin Belanger

Location: Tax Map(s)/Lot(s):
Surry

Project Description: Repair existing 9x9x28' NHDOT box culvert

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 10/30/2017.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2017-SLI-0312

November 18, 2016

Event Code: 05E1NE00-2017-E-00376

Project Name: District 4 Surry

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: District 4 Surry

Official Species List

Provided by:

New England Ecological Services Field Office

70 COMMERCIAL STREET, SUITE 300

CONCORD, NH 03301

(603) 223-2541

<http://www.fws.gov/newengland>

Consultation Code: 05E1NE00-2017-SLI-0312

Event Code: 05E1NE00-2017-E-00376

Project Type: TRANSPORTATION

Project Name: District 4 Surry

Project Description: Culvert repair on Rt 12A

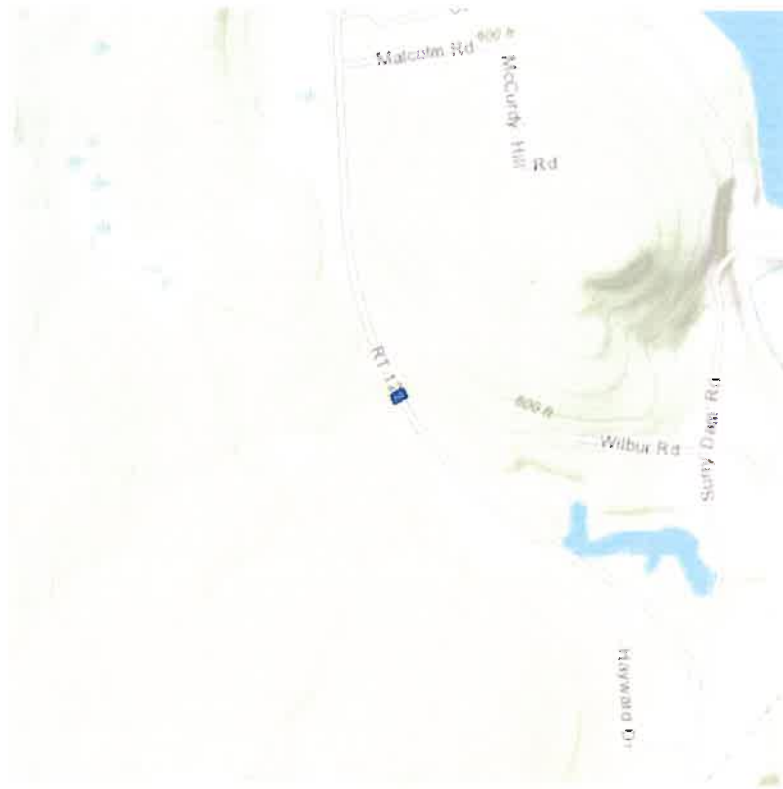
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: District 4 Surry

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-72.32128143310547 42.99461914642553, -72.32137799263 42.99477609144716, -72.32106685638428 42.99487810549628, -72.32095956802368 42.99474470247489, -72.32128143310547 42.99461914642553)))

Project Counties: Cheshire, NH



United States Department of Interior
Fish and Wildlife Service

Project name: District 4 Surry

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	Status	Has Critical Habitat	Condition(s)
Northern long-eared Bat (<i>Myotis septentrionalis</i>) Population: Wherever found	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: District 4 Surry

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

IPaC Official Species List Consultation Code: 05E1NE00-2017-SLI-0312

Information to Determine 4(d) Rule Compliance:

	YES	NO
1. Does the project occur wholly outside of the WNS Zone ¹ ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Have you contacted the appropriate agency ² to determine if your project is near known hibernacula or maternity roost trees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Could the project alter the entrance or interior environment of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

You are eligible to use this form if you have answered yes to question #1 or yes to question #2 and no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant³ (Name, Email, Phone No.): NHDOT Sarah Large
Sarah.large@dot.nh.gov

Project Name: Surry 41213

Project Location (include coordinates if known): 42°59'40.975"N, 72°19'16.141"W

Basic Project Description (provide narrative below or attach additional information):

Repair of an existing 9'x9' concrete box culvert on RT 12A in Surry, NH. The repair consists of constructing an 8" thick knee/toe wall along the wingwalls and abutments through the structure. There is eroded concrete and scouring around the wings and abutments as well as exposed rebar that need to be repaired and addressed.

¹ <http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>

² See <http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html>

³ If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project occur within 150 feet of a known maternity roost tree?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project include forest conversion ⁴ ? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of forest conversion		
If known, estimated acres ⁵ of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31 ⁶		
Does the project include timber harvest? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

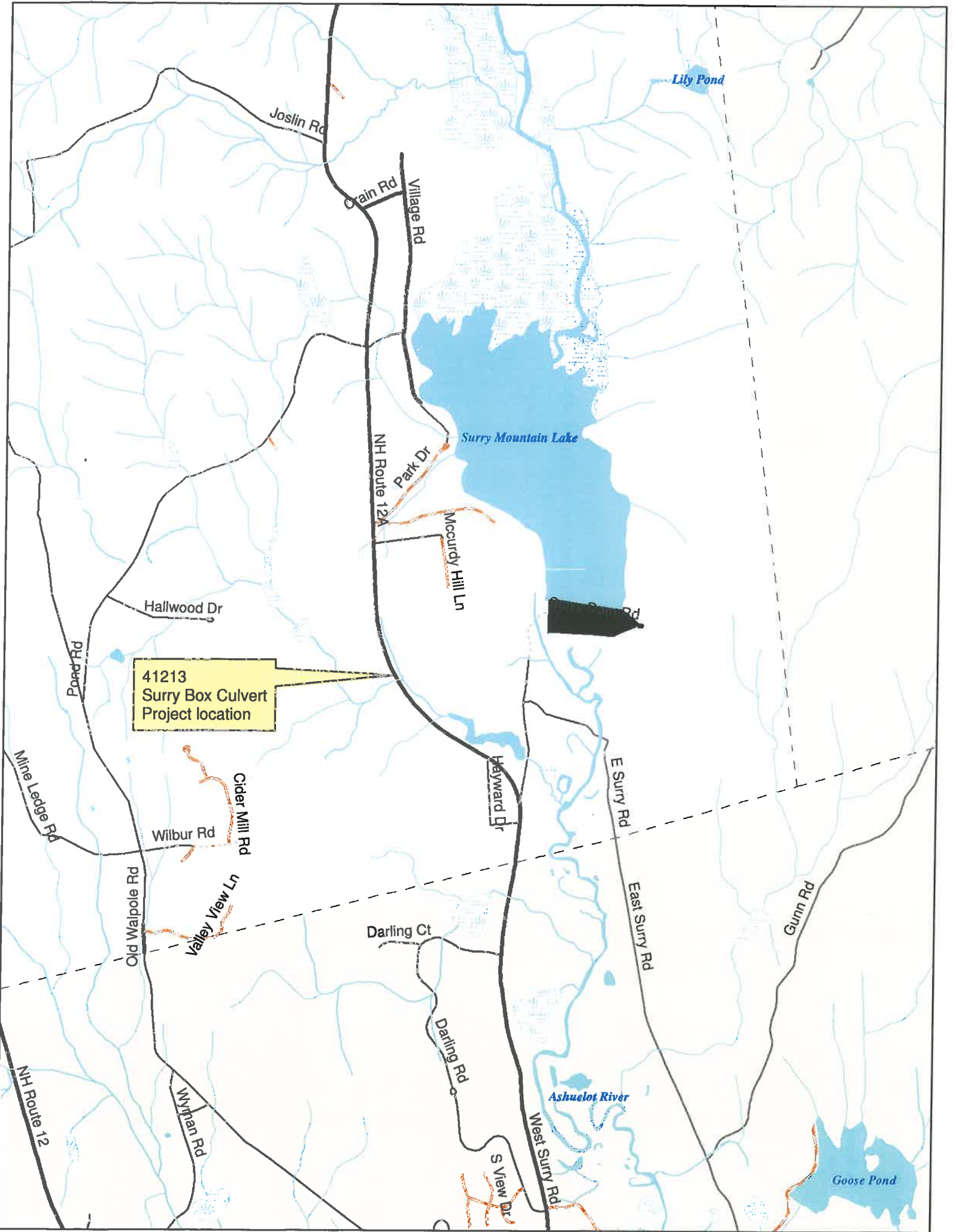
Signature: Sarah E Large

Date Submitted: 3/13/17

⁴ Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).

⁵ If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.

⁶ If the activity includes tree clearing in June and July, also include those acreage in April to October.



41213
Surry Box Culvert
Project location

Wetland Application – NHDOT Cultural Resources Review

For the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the US Army Corps of Engineers' *Appendix C*, and/or state regulation RSA 227-C:9, *Directive for Cooperation in the Protection of Historic Resources*, the NHDOT Cultural Resources Program has reviewed the enclosed Standard Dredge and Fill Application for potential impacts to historic properties.

Location: RT 12A

Project Description: Repair existing 9 X 9 ft by 28 ft long culvert by saw cutting and chipping out rotten concrete, installing forms, placing concrete, removing forms; placing temporary scaffolding and sandbag diversion that will be removed upon completion of work; add 8" thick knee wall

Above Ground Review

Known/approximate age of structure: 1939 concrete box culvert with concrete floor, associated with stream crossing

☒ No Potential to Cause Effect/No Concerns

As major actions of project are repair in kind

☐ Concerns:

Below Ground Review

Recorded Archaeological site: ☐ Yes ☒ No

Nearest Recorded Archaeological Site Name & Number: 27-CH-157 Mason Rock Carving

☐ Pre-Contact ☒ Post-Contact

Distance from Project Area:

3205 ft or 977 meters west of project location

☒ No Potential to Cause Effect/No Concerns

Minimal impacts, with no changes to existing banks, slopes or grades

☐ Concerns:

Reviewed by:



11/16/2016

NHDOT Cultural Resources Staff

Date:



US Army Corps
of Engineers®
New England District

U.S. Army Corps of Engineers
New Hampshire Programmatic General Permit (PGP)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5 regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		x
2. Wetlands	Yes	No
2.1 Are there streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	x	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org , specifically the book <u>Natural Community Systems of New Hampshire</u> .		x
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	x	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)	x	
2.5 The overall project site is more than 40 acres.		x
2.6 What is the size of the existing impervious surface area?	N/A	
2.7 What is the size of the proposed impervious surface area?	N/A	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	N/A	
3. Wildlife	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)		x
3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm . • Data Mapper: www.granit.unh.edu . • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html .		x
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		x
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		x
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	x	

4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		x
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
If a minor or major impact project, has a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) been sent to the NH Division of Historical Resources as required on Page 5 of the PGP?**		N/A

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.



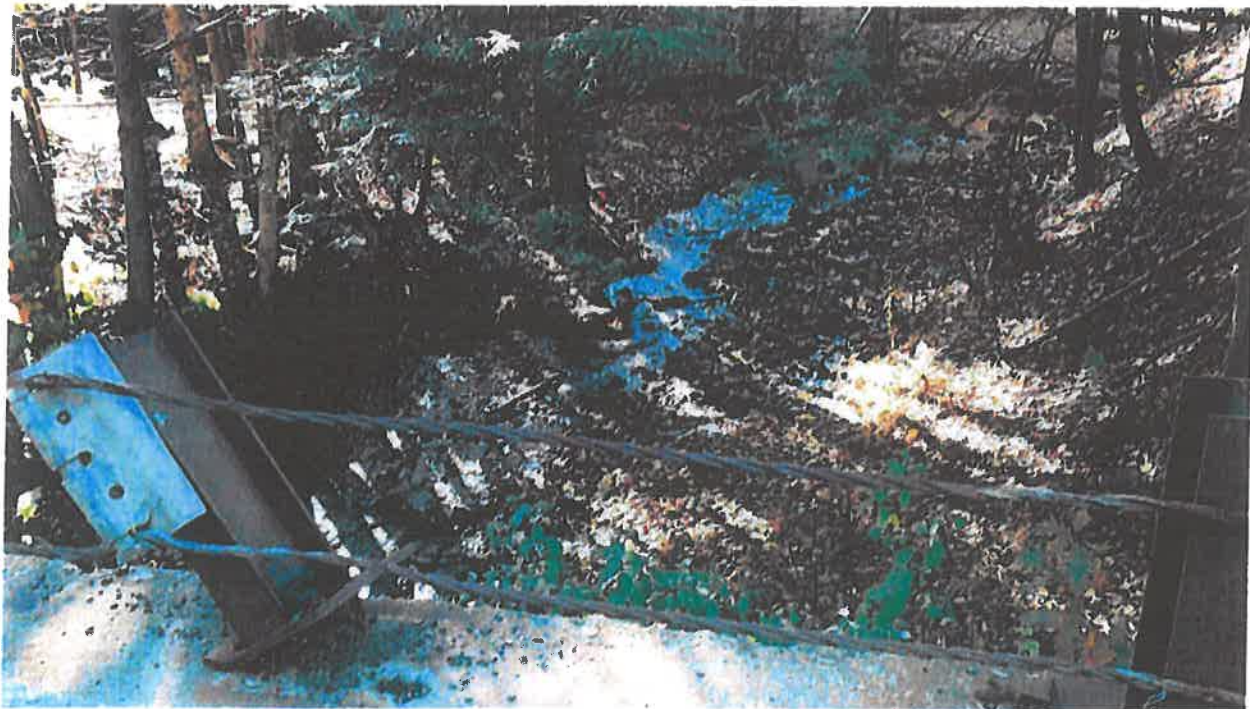
Failing Concrete.



Failing Concrete.



Downstream wingwalls.



Looking Upstream.



Looking downstream.



Upstream view.



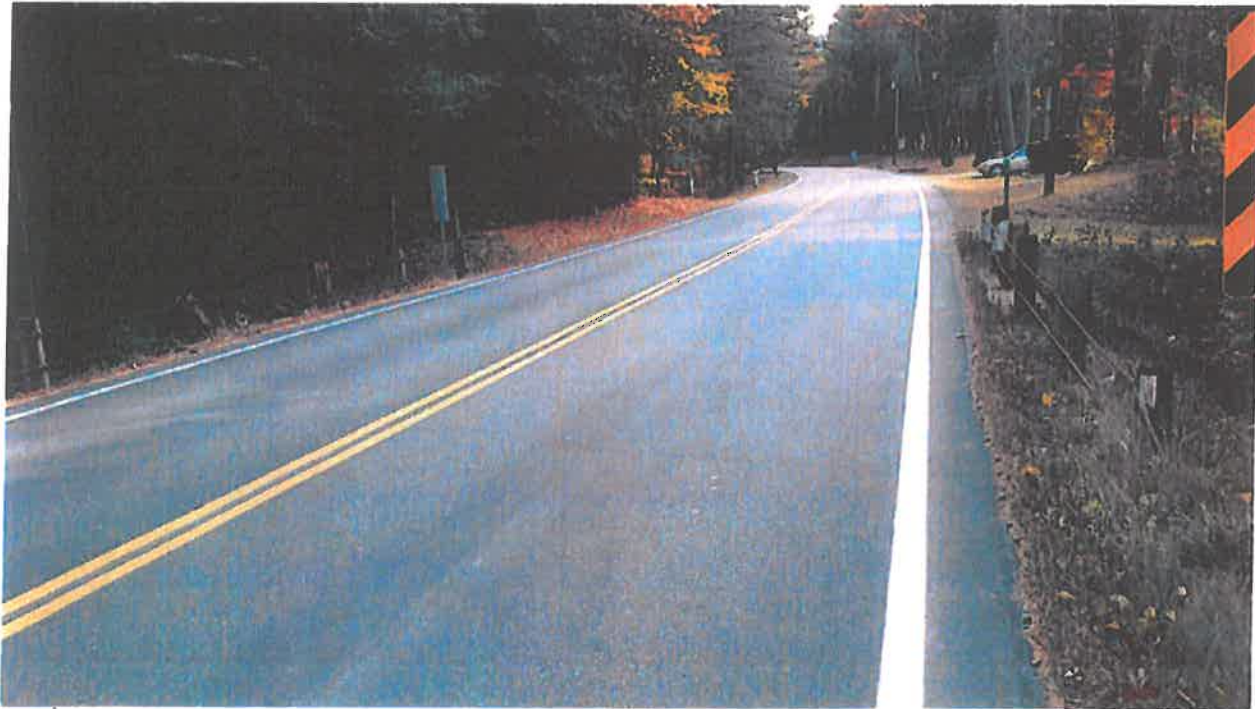
Upstream wingwalls.



Failed concrete and deteriorated rebar.



Looking downstream from inside box.



Looking south on 12A.



Looking upstream from inside box.

Surry 41213
Proposed Weir



With Proposed Weir, water would be held back into the box.



Existing Condition Downstream.



Tributary to Marse Brook, Rt 116, Easton. Grade control was built with cut granite with small notch in center where the two granite pieces meet. Although there is a small waterfall there, fish can swim upstream through it without jumping because the bottom of the notches is at about the water surface elevation of that downstream. This grade control effectively backwaters the entire length of this culvert to a water depth of 2-3 inches and therefore appears to be passable by the fish species in this stream (brook trout, blacknose dace, unidentified minnow seen during site visits).

Surry 4/2/13

Above is an example of a similar weir. In Surry we would use an existing ledge outcrop to create $\frac{1}{2}$ the weir and ledge blocks/curs to build the other $\frac{1}{2}$ to hold water to 2" +/- deep at the box outlet.

New Hampshire Department of Transportation
Bureau of Highway Maintenance, Project # 41213
Surry NH
9x9 concrete box repairs

Construction Sequence

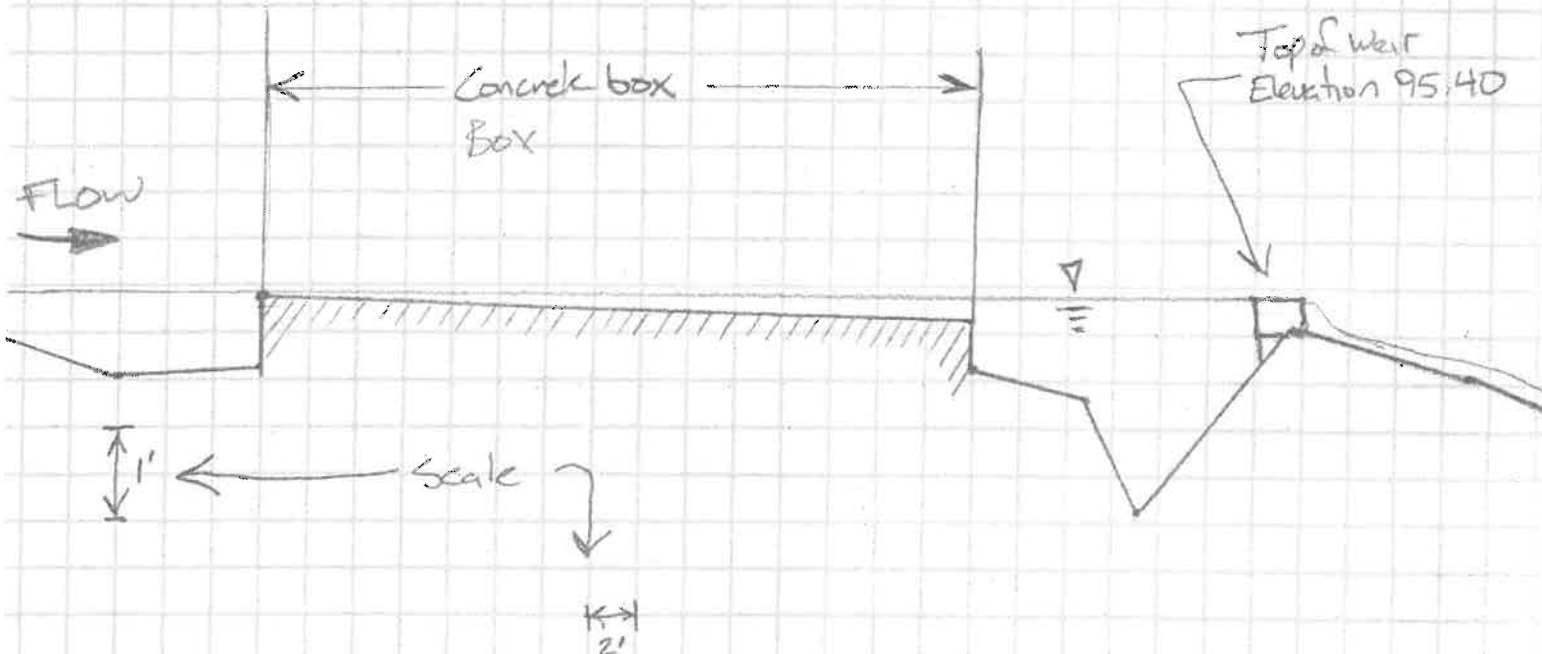
1. Install sand bag diversion down the middle of the existing box and along the wings to divert flow onto one side of the box culvert.
2. Saw cut a line along the limits of work.
3. Chip out rotten concrete.
4. Reinforce existing rebar as needed, build new rebar cage for knee walls.
5. Install forms, and place concrete.
6. Once cured remove forms.
7. Shift sandbags to move water to opposite side of box.
8. Redo steps 2-6 on side #2.
9. Place temporary scaffolding to make repairs to brush curb as needed each face.
10. Install weir.
11. Remove temporary sandbags.

Note: Project will use and maintain DES Best Management Practices at all stages of construction.

Surry 41213 Box Culvert Stream Profile

100.00
T+H assumed

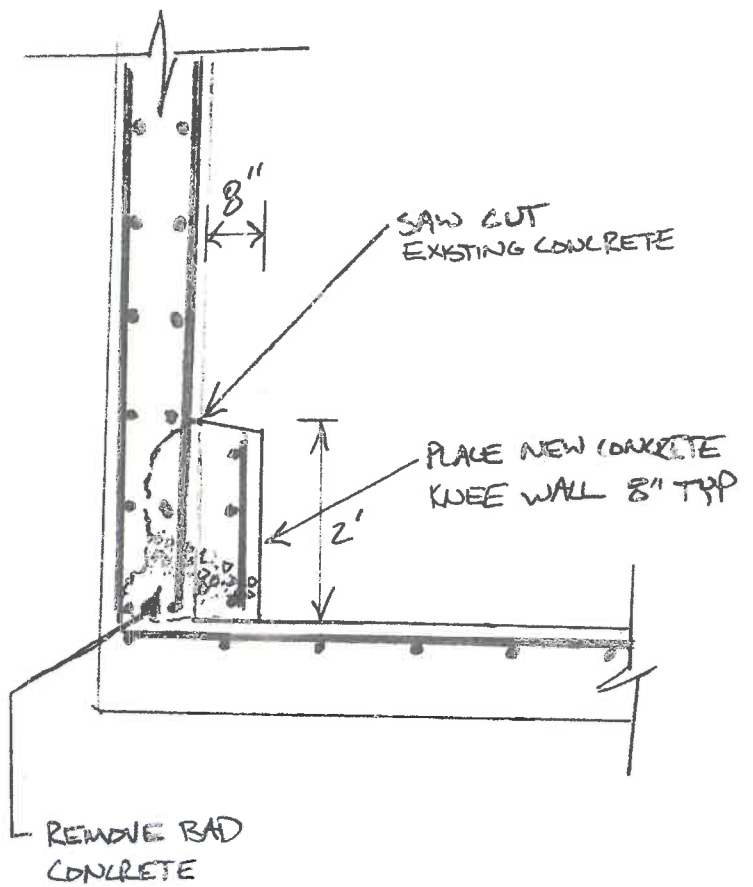
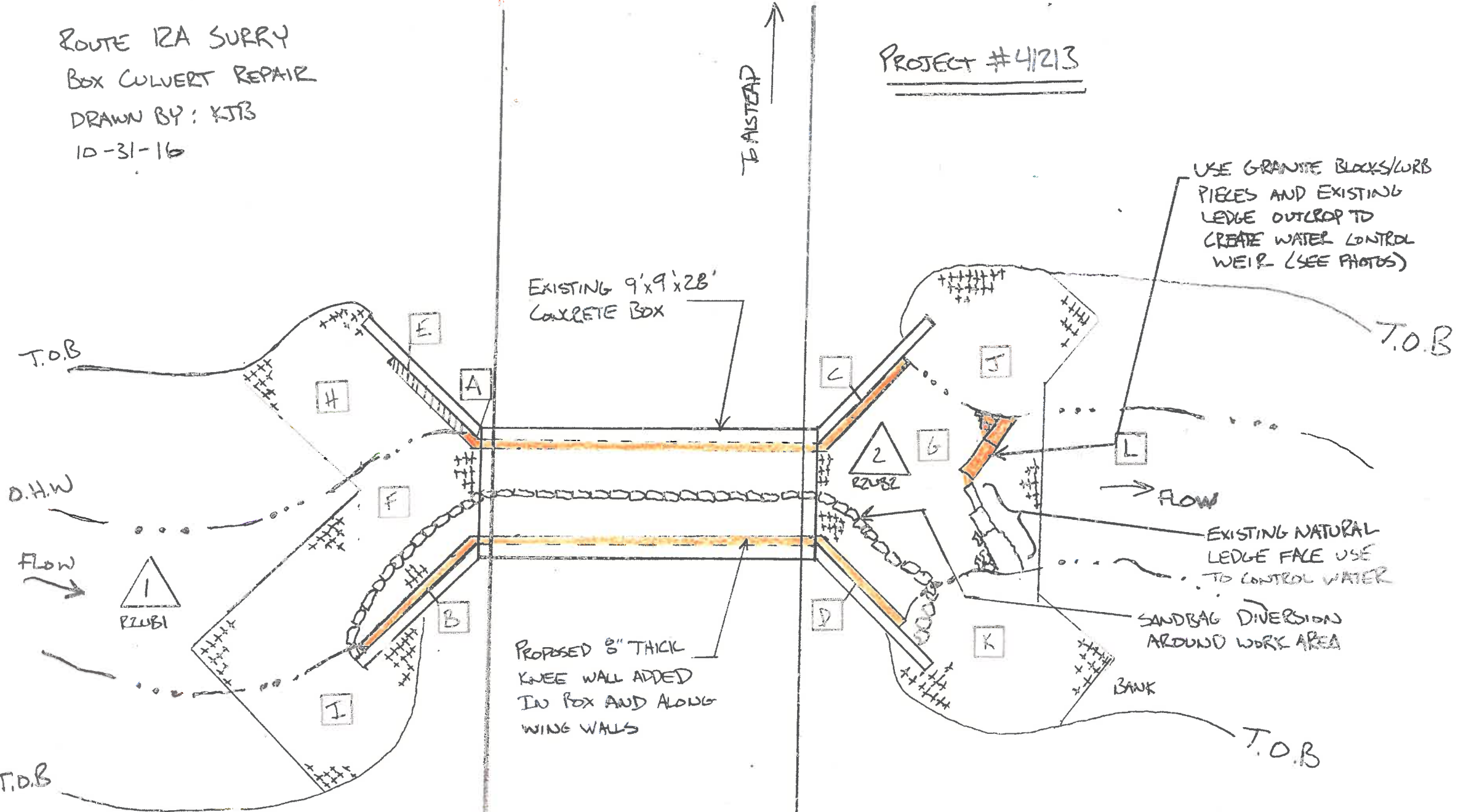
12' upstream	4.94	95.06
7' upstream	5.47	94.53
inlet dirt	5.36	94.64
↑ inlet concrete	4.58	95.42
30' outlet concrete	4.79	95.21
↓ outlet dirt	5.40	94.60
5' OUT	5.61	94.39
6.5' OUT	6.90	93.10
13.5' OUT	4.98	95.02
21' OUT	5.40	94.60
26' OUT	5.90	94.10



ROUTE 12A SURRY
BOX CULVERT REPAIR
DRAWN BY: KJB
10-31-16

PROJECT #41213

TYPICAL SECTION
SCALE: 1/2" = 1'



ROUTE 12A

PLAN VIEW
Scale: 1" = 10'

TO KEENE

LEGEND

TYPE OF WETLAND IMPACT	PERMANENT IMPACT
N.H.W.B. (NON-WETLAND)	
N.H.W.B. & A.C.O.E. (WETLAND)	

N.H.W.B. - NEW HAMPSHIRE WETLANDS BOARD
A.C.O.E. - ARMY CORPS OF ENGINEERS

ORDINARY HIGH WATER (OHW) TOP OF BANK (TOB)

WETLAND DESIGNATION NUMBER
 WETLAND IMPACT LOCATION
 WETLAND MITIGATION AREA
 TEMPORARY IMPACTS
 MITIGATION

			AREA IN SQUARE FEET			LINEAR FEET	
WETLAND #	USFWS WETLAND CLASSIFICATION	LOCATION	N.H.W.B NON-WTLND	N.H.W.B & A.C.O.E WETLAND	TEMPORARY IMPACTS	N.H.W.B NON-WTLND	N.H.W.B & A.C.O.E WETLAND
1	R2UB1	A		2			2
1	R2UB1	B		14			14
2	RBUB2	C		38			38
2	R2UB2	D		38			38
3	BANK	E	9			9	
1	R2UB1	F			230		
2	R2UB2	G			476		
3	BANK	H			140		
3	BANK	I			100		
3	BANK	J			135		
3	BANK	K			165		
2	R2UB2	L		16			16
			9	108	1246	9	108

PERMANENT IMPACTS 117 SQ-FT 117 LINEAR FT
TEMPORARY IMPACTS 1246 SQ-FT